

SEQUENCE LISTING (PCT-JP2004-15997)
SEQUENCE LISTING

<110> KAZUSA DNA RESEARCH INSTITUTE FOUNDATION; Institute for Biomedical Research and Innovation

<120> Novel Plexin Polypeptide, DNA Encoding thereof and Their use

<130> PCT-AB04047

<150> JP 2003-371040

<151> 2003-10-30

<150> JP 2004-229871

<151> 2004-08-05

<160> 19

<170> PatentIn version 3.1

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<212> PRT

<213> mouse

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Ser Leu Glu Asp His Arg Phe Glu Asn Thr Pro Glu Ile Ala Ile Arg
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Asn Pro Ser Asp Asp Asn Ile Leu Lys Ile Lys Gln Gly Ala Lys Glu
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Pro His Ser Ala Gln Pro Tyr Ala Tyr Leu Ala Leu Asn Ser Glu Ala
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Arg Ala Gly Asp Lys Asp Ser Gln Ala Arg Ser Leu Leu Ala Arg Ile
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Cys Leu Pro Arg Gly Ala Gly Gly Asp Ala Lys Lys Leu Thr Glu Ser
Page 1

145

SEQUENCE LISTING (PCT-JP2004-15997)

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Arg Asn Ile Gln Leu Gln Pro Glu Gln Leu Asp Cys Gly Ala Ala His
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Leu Gln His Pro Leu Thr Ile Leu Gln Pro Leu Arg Ala Ser Pro Val
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Phe Arg Ala Pro Gly Leu Thr Ala Val Ala Val Ala Ser Ala Asn Asn
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Tyr Thr Ala Val Phe Leu Gly Thr Ala Thr Gly Arg Leu Leu Lys Ile
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Ser Leu Asn Glu Ser Met Gln Val Val Ser Arg Arg Val Leu Thr Val
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Val Ala Ala Cys Glu Val His Ser Thr Cys Gly Asp Cys Val Gly Ala
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SEQUENCE LISTING (PCT-JP2004-15997)

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Ser Glu Gly Pro Ser Arg Cys Pro Ala Met Thr Val Leu Pro Ser Glu
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Gly Val Arg Thr Val Ala Arg Val Pro Gly Pro Ala Tyr Asp His Gln
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Asn Asn Ser Leu Val Arg Cys Asn Gln Val Val Leu His Thr Thr Gln
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Lys Ser Gln Val Phe Pro Leu Ser Leu Lys Leu Lys Gly Pro Pro Asp
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SEQUENCE LISTING (PCT-JP2004-15997)

Arg Phe Leu Asp Ser Pro Asn Pro Met Thr Val Val Val Tyr Asn Cys
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Thr Arg Thr Ala Thr Ser Ile Thr Cys Thr Val Pro Gly Gly Thr Leu
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His Gly Asn Leu Thr Phe Trp Tyr Met Gln Asn Pro Val Ile Thr Ala
885 890 895

Ile Ser Pro Gly Arg Ser Pro Val Ser Gly Gly Arg Thr Ile Thr Val
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SEQUENCE LISTING (PCT-JP2004-15997)

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His Ile Gly Arg Glu Pro Thr Phe Cys Lys Val Leu Asn Ser Thr Leu
930 935 940

Ile Thr Cys Pro Ser Pro Gly Ala Leu Ser Asn Ala Ser Ala Pro Val
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Lys His His Pro Gly Glu Pro Leu Thr Leu Val Ile His Lys Glu
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Page 5

SEQUENCE LISTING (PCT-JP2004-15997)

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1155

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Ser Val Val Glu Lys Met Leu Thr Asn Trp Met Ser Ile Cys Met
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SEQUENCE LISTING (PCT-JP2004-15997)

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SEQUENCE LISTING (PCT-JP2004-15997)

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SEQUENCE LISTING (PCT-JP2004-15997)

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SEQUENCE LISTING (PCT-JP2004-15997)

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SEQUENCE LISTING (PCT-JP2004-15997)

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Leu Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg
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Ala Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly
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Ala Pro Pro Ser Ala Arg Ala Ala Ala Val Pro Leu Arg Pro Arg
85 90 95

Pro His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu
100 105 110

Leu Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro
115 120 125

Ser Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr
130 135 140

Val Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn
145 150 155 160

Leu Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro
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Leu Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg
180 185 190

Arg Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln
195 200 205

Gly Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu
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SEQUENCE LISTING (PCT-JP2004-15997)

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35 40 45

Leu Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg
50 55 60

Ala Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly
65 70 75 80

Ala Pro Pro Ser Ala Arg Ala Ala Ala Val Pro Leu Arg Pro Arg
Page 15

SEQUENCE LISTING (PCT-JP2004-15997)

85

90

95

Pro His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu
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Leu Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro
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Ser Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr
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Val Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn
 145 150 155 160

Leu Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro
 165 170 175

Leu Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg
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Arg Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln
 195 200 205

Gly Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu
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Arg Arg Arg Gly Asn Ile Ser Ala Leu Ala Val Ser Phe Pro Pro Ala
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Ala Pro Thr Ala Glu Pro Val Thr Val Phe Pro Ser Met Leu Asn Val
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Ala Ala Asn His Pro Asn Ala Ser Thr Val Gly Leu Val Leu Pro Pro
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Thr Ser Gly Thr Gly Gly Ser Arg Leu Leu Val Gly Ala Thr Tyr Thr
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Gly Phe Gly Ser Ala Phe Phe Pro Arg Asn Arg Ser Leu Glu Asp His
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Arg Phe Glu Asn Thr Pro Glu Ile Ala Ile Arg Ser Leu Asp Ala Arg
 305 310 315 320

Gly Asp Leu Ala Lys Leu Phe Thr Phe Asp Leu Asn Pro Ser Asp Asp
 325 330 335

SEQUENCE LISTING (PCT-JP2004-15997)

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Phe Val Arg Ala Phe Leu His Pro Ala Val Pro Pro His Ser Ala Gln
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Pro Tyr Ala Tyr Leu Ala Leu Asn Ser Glu Ala Arg Ala Gly Asp Lys
 370 375 380

Asp Ser Gln Ala Arg Ser Leu Leu Ala Arg Ile Cys Leu Pro Arg Gly
 385 390 395 400

Ala Gly Gly Asp Ala Lys Lys Leu Thr Glu Ser Tyr Ile Gln Leu Gly
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Leu Gln Cys Ala Gly Gly Ala Gly Arg Gly Asp Leu Tyr Ser Arg Leu
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Val Ser Val Phe Pro Ala Arg Glu Gln Phe Phe Ala Val Phe Glu Arg
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Pro Gln Gly Ala Pro Gly Ala Arg Asn Ala Pro Ala Ala Leu Cys Ala
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Phe Arg Phe Asp Asp Val Gln Ala Ala Ile Arg Ala Ala Arg Thr Ala
 465 470 475 480

Cys Phe Val Glu Pro Ala Pro Asp Val Val Ala Val Leu Asp Ser Val
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Val Gln Gly Thr Gly Pro Ala Cys Glu Ser Lys Arg Asn Ile Gln Leu
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Gln Pro Glu Gln Leu Asp Cys Gly Ala Ala His Leu Gln His Pro Leu
 515 520 525

Thr Ile Leu Gln Pro Leu Arg Ala Ser Pro Val Phe Arg Ala Pro Gly
 530 535 540

Leu Thr Ala Val Ala Val Ala Ser Ala Asn Asn Tyr Thr Ala Val Phe
 545 550 555 560

Leu Gly Thr Ala Thr Gly Arg Leu Leu Lys Ile Ser Leu Asn Glu Ser
 565 570 575

Met Gln Val Val Ser Arg Arg Val Leu Thr Val Ala Tyr Gly Glu Pro
 580 585 590

SEQUENCE LISTING (PCT-JP2004-15997)

Val His His Val Met Gln Phe Asp Pro Met Asp Pro Gly Tyr Leu Tyr
595 600 605

Leu Met Thr Ser His Gln Met Ala Arg Val Lys Val Ala Ala Cys Glu
610 615 620

Val His Ser Thr Cys Gly Asp Cys Val Gly Ala Ala Asp Ala Tyr Cys
625 630 635 640

Gly Trp Cys Thr Leu Glu Thr Arg Cys Thr Leu Gln Gln Asp Cys Thr
645 650 655

Asn Ser Ser Gln Pro His Phe Trp Thr Ser Ala Ser Glu Gly Pro Ser
660 665 670

Arg Cys Pro Ala Met Thr Val Leu Pro Ser Glu Ile Asp Val His Arg
675 680 685

Asp Tyr Thr Gly Met Ile Leu Gln Ile Ser Gly Ser Leu Pro Ser Leu
690 695 700

Ser Gly Met Glu Met Ala Cys Asp Tyr Gly Asn Gly Val Arg Thr Val
705 710 715 720

Ala Arg Val Pro Gly Pro Ala Tyr Asp His Gln Ile Ala Tyr Cys Asn
725 730 735

Leu Leu Pro Arg Ala Gln Phe Pro Ser Phe Pro Ala Gly Gln Asp His
740 745 750

Val Thr Val Glu Met Ser Val Arg Val Lys Gly His Asn Ile Val Ser
755 760 765

Ala Asn Phe Thr Ile Tyr Asp Cys Ser Arg Ile Gly Gln Val Tyr Pro
770 775 780 785

His Thr Ala Cys Thr Ser Cys Leu Ser Thr Gln Trp Pro Cys Ser Trp
785 790 795 800

Cys Ile Gln Leu His Ser Cys Val Ser Asn Gln Ser Gln Cys Gln Asp
805 810 815

Ser Pro Asn Pro Thr Ser Pro Gln Asp Cys Pro Gln Ile Leu Pro Ser
820 825 830

Pro Leu Ala Pro Val Pro Thr Gly Gly Ser Gln Asp Ile Leu Val Pro
835 840 845

SEQUENCE LISTING (PCT-JP2004-15997)

Leu Thr Lys Ala Thr Phe Phe His Gly Ser Ser Leu Glu Cys Ser Phe
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865 870 875 880

Arg Cys Asn Gln Val Val Leu His Thr Thr Gln Lys Ser Gln Val Phe
885 890 895

Pro Leu Ser Leu Lys Leu Lys Gly Pro Pro Asp Arg Phe Leu Asp Ser
900 905 910

Pro Asn Pro Met Thr Val Val Val Tyr Asn Cys Ala Met Gly Ser Pro
915 920 925

Asp Cys Ser Gln Cys Leu Gly Arg Glu Asp Leu Gly His Leu Cys Val
930 935 940

Trp Asn Asp Gly Cys Arg Leu Arg Gly Pro Leu Gln Pro Leu Pro Gly
945 950 955 960

Thr Cys Pro Ala Pro Glu Ile Arg Ala Ile Glu Pro Leu Ser Gly Pro
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Leu Asp Gly Gly Thr Leu Leu Thr Ile Arg Gly Arg Asn Leu Gly Arg
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Arg Leu Ser Asp Val Ala His Gly Val Trp Ile Gly Ser Val Ala Cys
995 1000 1005

Glu Pro Leu Ala Asp Arg Tyr Thr Val Ser Glu Glu Ile Val Cys
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Ala Thr Gly Pro Ala Ala Gly Ala Phe Ser Asp Val Val Thr Val
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Asn Val Ser Lys Glu Gly Arg Ser Arg Glu Gln Phe Ser Tyr Val
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Leu Pro Thr Val His Ser Leu Glu Pro Ser Met Gly Pro Lys Ala
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Gly Gly Thr Arg Ile Thr Ile His Gly Ser Asp Leu Asn Val Gly
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Ser Met Leu Gln Val Leu Val Asn Asp Thr Asp Pro Cys Thr Asp

SEQUENCE LISTING (PCT-JP2004-15997)

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1095

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Gly Cys Val His Gly Asn Leu Thr Phe Trp Tyr Met Gln Asn Pro
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Val Ile Thr Ala Ile Ser Pro Gly Arg Ser Pro Val Ser Gly Gly
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Lys Val Leu Asn Ser Thr Leu Ile Thr Cys Pro Ser Pro Gly Ala
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Leu Ser Asn Ala Ser Ala Pro Val Asp Phe Phe Ile Asn Gly Arg
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Gln Phe Ser Thr Ala Lys Arg Glu Lys Trp Ile Lys His His Pro
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Gly Leu Glu Ser His Glu Tyr His Ile Lys Ile Gly Gln Val Ser
 1280 1285 1290

Cys Asp Ile Gln Ile Ile Ser Asp Arg Val Ile His Cys Ser Val
 1295 1300 1305

Asn Glu Ser Leu Gly Thr Ala Glu Gly Gln Leu Pro Ile Thr Ile
 1310 1315 1320

SEQUENCE LISTING (PCT-JP2004-15997)

Gln Val Gly Asn Phe Asn Gln Thr Ile Ala Thr Leu Gln Leu Gly
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 1340 1345 1350

Leu Leu Leu Leu Ser Val Val Ala Leu Phe Val Phe Cys Thr Lys
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Ser Arg Arg Ala Glu Arg Tyr Trp Gln Lys Thr Leu Leu Gln Met
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Glu Glu Met Glu Ser Gln Ile Arg Glu Glu Ile Arg Lys Gly Phe
 1385 1390 1395

Ala Glu Leu Gln Thr Asp Met Thr Asp Leu Thr Lys Glu Leu Asn
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Arg Ser Gln Gly Ile Pro Phe Leu Glu Tyr Lys His Phe Val Thr
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Arg Thr Phe Phe Pro Lys Cys Ser Ser Leu Tyr Glu Glu Arg Tyr
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Gln Glu Thr His Pro Leu Leu Gly Glu Trp Asn Ile Pro Glu His
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Cys Arg Pro Ser Met Glu Glu Gly Ile Ser Leu Phe Ser Ser Leu
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SEQUENCE LISTING (PCT-JP2004-15997)

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1565 1570 1575

Arg Glu Thr Val Gly Glu Pro Phe Phe Leu Leu Leu Cys Ala Ile
1580 1585 1590

Lys Gln Gln Ile Asn Lys Gly Ser Ile Asp Ala Ile Thr Gly Lys
1595 1600 1605

Ala Arg Tyr Thr Leu Asn Glu Glu Trp Leu Leu Arg Glu Asn Ile
1610 1615 1620

Glu Ala Lys Pro Arg Asn Leu Asn Val Ser Phe Gln Gly Cys Gly
1625 1630 1635

Met Asp Ser Leu Ser Val Arg Ala Met Asp Thr Asp Thr Leu Thr
1640 1645 1650

Gln Val Lys Glu Lys Ile Leu Glu Ala Phe Cys Lys Asn Val Pro
1655 1660 1665

Tyr Ser Gln Trp Pro Arg Ala Glu Asp Val Asp Leu Glu Trp Phe
1670 1675 1680

Ala Ser Ser Thr Gln Ser Tyr Val Leu Arg Asp Leu Asp Asp Thr
1685 1690 1695

Ser Val Val Glu Asp Gly Arg Lys Lys Leu Asn Thr Leu Ala His
1700 1705 1710

Tyr Lys Ile Pro Glu Gly Ala Ser Leu Ala Met Ser Leu Thr Asp
1715 1720 1725

Lys Lys Asp Ser Thr Leu Gly Arg Val Lys Asp Leu Asp Thr Glu
1730 1735 1740

Lys Tyr Phe His Leu Val Leu Pro Thr Asp Glu Leu Val Glu Pro
1745 1750 1755

Lys Lys Ser His Arg Gln Ser His Arg Lys Lys Val Leu Pro Glu
1760 1765 1770

Ile Tyr Leu Thr Arg Leu Leu Ser Thr Lys Gly Thr Leu Gln Lys
1775 1780 1785

Phe Leu Asp Asp Leu Phe Lys Ala Ile Leu Ser Ile Arg Glu Asp
1790 1795 1800

SEQUENCE LISTING (PCT-JP2004-15997)

Lys Pro Pro Leu Ala Val Lys Tyr Phe Phe Asp Phe Leu Glu Glu
1805 1810 1815

Gln Ala Glu Lys Arg Gly Ile Ser Asp Pro Asp Thr Leu His Ile
1820 1825 1830

Trp Lys Thr Asn Ser Leu Pro Leu Arg Phe Trp Val Asn Ile Leu
1835 1840 1845

Lys Asn Pro Gln Phe Val Phe Asp Ile Glu Lys Thr Asp His Ile
1850 1855 1860

Asp Ala Cys Leu Ser Val Ile Ala Gln Ala Phe Ile Asp Ala Cys
1865 1870 1875

Ser Ile Ser Asp Leu Gln Leu Gly Lys Asp Ser Pro Thr Asn Lys
1880 1885 1890

Leu Leu Tyr Ala Lys Glu Ile Pro Glu Tyr Arg Lys Thr Val Gln
1895 1900 1905

Arg Tyr Tyr Lys Gln Ile Gln Asp Met Thr Pro Leu Ser Glu Gln
1910 1915 1920

Glu Met Asn Ala His Leu Ala Glu Glu Ser Arg Lys Tyr Gln Asn
1925 1930 1935

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1940 1945 1950

Lys Arg Tyr Arg Pro Gln Ile Met Ala Ala Leu Glu Ala Asn Pro
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SEQUENCE LISTING (PCT-JP2004-15997)

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SEQUENCE LISTING (PCT-JP2004-15997)

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Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg Ala
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Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly Ala
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Pro Pro Ser Ala Arg Ala Ala Ala Val Pro Leu Arg Pro Arg Pro
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His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu Leu
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Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro Ser
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Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr Val
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Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn Leu
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Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro Leu
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Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg Arg
180 185 190

Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln Gly
195 200 205

Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu Arg
Page 28

SEQUENCE LISTING (PCT-JP2004-15997)

210

215

220

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Pro Thr Ala Glu Pro Val Thr Val Phe Pro Ser Met Leu Asn Val Ala
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Phe Gly Ser Ala Phe Phe Pro Arg Asn Arg Ser Leu Glu Asp His Arg
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Phe Glu Asn Thr Pro Glu Ile Ala Ile Arg Ser Leu Asp Ala Arg Gly
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Asp Leu Ala Lys Leu Phe Thr Phe Asp Leu Asn Pro Ser Asp Asp Asn
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Ile Leu Lys Ile Lys Gln Gly Ala Lys Glu Gln His Lys Leu Gly Phe
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Val Arg Ala Phe Leu His Pro Ala Val Pro Pro His Ser Ala Gln Pro
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Gln Cys Ala Gly Gly Ala Gly Arg Gly Asp Leu Tyr Ser Arg Leu Val
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Ser Val Phe Pro Ala Arg Glu Gln Phe Phe Ala Val Phe Glu Arg Pro
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SEQUENCE LISTING (PCT-JP2004-15997)

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Pro Glu Gln Leu Asp Cys Gly Ala Ala His Leu Gln His Pro Leu Thr
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Ile Leu Gln Pro Leu Arg Ala Ser Pro Val Phe Arg Ala Pro Gly Leu
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Thr Ala Val Ala Val Ala Ser Ala Asn Asn Tyr Thr Ala Val Phe Leu
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Gly Thr Ala Thr Gly Arg Leu Leu Lys Ile Ser Leu Asn Glu Ser Met
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Gln Val Val Ser Arg Arg Val Leu Thr Val Ala Tyr Gly Glu Pro Val
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His His Val Met Gln Phe Asp Pro Met Asp Pro Gly Tyr Leu Tyr Leu
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Met Thr Ser His Gln Met Ala Arg Val Lys Val Ala Ala Cys Glu Val
 610 615 620

His Ser Thr Cys Gly Asp Cys Val Gly Ala Ala Asp Ala Tyr Cys Gly
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Trp Cys Thr Leu Glu Thr Arg Cys Thr Leu Gln Gln Asp Cys Thr Asn
 645 650 655

Ser Ser Gln Pro His Phe Trp Thr Ser Ala Ser Glu Gly Pro Ser Arg
 660 665 670

Cys Pro Ala Met Thr Val Leu Pro Ser Glu Ile Asp Val His Arg Asp
 675 680 685

Tyr Thr Gly Met Ile Leu Gln Ile Ser Gly Ser Leu Pro Ser Leu Ser
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Gly Met Glu Met Ala Cys Asp Tyr Gly Asn Gly Val Arg Thr Val Ala
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SEQUENCE LISTING (PCT-JP2004-15997)

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755 760 765

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785 790 795 800

Ile Gln Leu His Ser Cys Val Ser Asn Gln Ser Gln Cys Gln Asp Ser
805 810 815

Pro Asn Pro Thr Ser Pro Gln Asp Cys Pro Gln Ile Leu Pro Ser Pro
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835 840 845

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865 870 875 880

Cys Asn Gln Val Val Leu His Thr Thr Gln Lys Ser Gln Val Phe Pro
885 890 895

Leu Ser Leu Lys Leu Lys Gly Pro Pro Asp Arg Phe Leu Asp Ser Pro
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Asn Pro Met Thr Val Val Val Tyr Asn Cys Ala Met Gly Ser Pro Asp
915 920 925

Cys Ser Gln Cys Leu Gly Arg Glu Asp Leu Gly His Leu Cys Val Trp
930 935 940

Asn Asp Gly Cys Arg Leu Arg Gly Pro Leu Gln Pro Leu Pro Gly Thr
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SEQUENCE LISTING (PCT-JP2004-15997)

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Val Ser Lys Glu Gly Arg Ser Arg Glu Gln Phe Ser Tyr Val Leu
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Leu Pro Ser Pro Val Pro Val Cys Val Arg Phe Glu Ser Arg Gly
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Cys Val His Gly Asn Leu Thr Phe Trp Tyr Met Gln Asn Pro Val
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Ile Thr Ala Ile Ser Pro Gly Arg Ser Pro Val Ser Gly Gly Arg
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Ser Met Ala Val His His Ile Gly Arg Glu Pro Thr Phe Cys Lys
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Val Leu Asn Ser Thr Leu Ile Thr Cys Pro Ser Pro Gly Ala Leu
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Ser Asn Ala Ser Ala Pro Val Asp Phe Phe Ile Asn Gly Arg Ala
Page 32

SEQUENCE LISTING (PCT-JP2004-15997)
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Leu Glu Ser His Glu Tyr His Ile Lys Ile Gly Gln Val Ser Cys
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